

ENTREPRENEURIAL PROSPECTS AND DEMOGRAPHIC ELEMENTS CONTRIBUTING TO THE ADVANCEMENT OF AGRI-HORTI BASED BUSINESSES IN THE IMPHAL-EAST AND WEST DISTRICTS

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ABSTRACT

Research on professional and agro-entrepreneurial skills in line with the opportunities and difficulties of the fast changing global economy is desperately needed in the current social, economic, natural, and geopolitical setting. The purpose of this research was to ascertain the evaluation of entrepreneurial prospects and demographic elements that advance agri-horticulture based from the samples of eighty entrepreneurs. Eighty entrepreneurs from the Imphal-East and Imphal-West districts of Manipur were chosen between 2018 and 2024 in order to carry out the research study in two different geographic zones within the state. In our findings a significant portion of the startups entrepreneurs roughly 75% had various degrees. The program also benefited 25% of less educated individuals. In the agriculture sector recently founded agri-business owners, roughly 68% were men. Female education about the agricultural sector was crucial. Through the creation of jobs and revenue, startups had found to boost the state economy. The discovery revealed that a few high-income generating sectors were mushroom cultivation, feed processing, integrated farming, pig farming, poultry farming, and handloom and handicrafts. Handloom and craft, communal farming, nursery farming, and bio-waste treatment were a few notable enterprises that created jobs, though.

(Key words: Manipur, agro-horticulture entrepreneurs, startups, youth and horticultural economics)

INTRODUCTION

Agriculture and food-related businesses are significant sources of employment and means of subsistence in Manipur (Ezung *et al.*, 2021; Mistri, 2022). Entrepreneurship has been shown to produce benefits beyond financial success in the modern era (Sargani *et al.*, 2020). An agricultural entrepreneur is a forward-thinking person who performs a variety of agriculture-related jobs with a variety of resources financial, human, informational, and physical in order to accomplish a certain objective (Narendran, 2015).

An individual classified as an Agri-entrepreneur is one who participates in several agricultural and related sector operations (Garima *et al.*, 2023). However, there are situations where entrepreneurship in the agricultural sector is seen as inappropriate or at the very least difficult to implement, particularly in India's northeastern regions (Sinha, 2003). In order to highlight novel concepts within the farming industry, more scientific research in these areas may make fascinating contributions. According to this framework, the study's goal was to investigate the

entrepreneurial aspects in the agriculture-horticulture-based Imphal West and East in order to identify a more resilient industry (Ezung *et al.*, 2021) for potential future economic growth (Martinho, 2020).

MATERIALS AND METHODS

Eighty entrepreneurs from the Imphal-East and Imphal-West districts of Manipur were chosen between 2018 and 2024 in order to carry out the research study in two different geographic zones within the state. The major findings are presented below. To collect important data and information for additional analysis, a well-structured questionnaire was created and sent to responders. Despite its bias, the convenience sampling method allowed the researcher to collect data from potential study participants based on their willingness to complete a survey, with 80 entrepreneurs serving as the sample population which was adopted from Cortés-Rodríguez *et al.* (2023). The information regarding the producing unit and entrepreneurial skills was obtained from the actors through a survey, which was conducted as part of a social research technique used in

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this study. Incorporating descriptive statistics like Pearson Chi-Squared statistic; Levene's Test for Equality of Variances Significance according to Raymng and Schneider (1985) and the hypothesis allowed for the analysis and representation of the data sets. IBM SPSS statistics was used to handle the data so that size, correlation, and comparison analysis could be carried out. The many predetermined hypotheses have been estimated using the assigned prediction listed below in order to investigate the objective;

The null hypothesis is as follows.

1. The performance/status of horticulture-based startups is not associated with age.
2. The performance/status of horticulture-based startups is not associated with gender.
3. The performance/status of horticulture-based startups is not associated with religion.
4. The performance/status of horticulture-based startups is not associated with marital status.
5. The performance/status of horticulture-based startups is not associated with educational qualifications.

The alternative hypotheses are as follows.

1. The performance/status of horticulture-based startups is associated with age. (Age impacts the performance of startups).
2. The performance/status of horticulture-based startups is associated with gender.
3. The performance/status of horticulture-based startups is associated with religion.
4. The performance/status of horticulture-based startups is associated with marital status.
5. The performance/status of horticulture-based startups is associated with educational qualifications.

RESULTS AND DISCUSSION

It was found that mushroom farming is the highest income-generating business in these two districts. Feed processing, Handloom and handicraft, integrated farming, piggery farming, and poultry farming were some of the high-income generating activities. All the dairy farms generated monthly income below 10,000 rupees. Sixty per cent of the technology development startups can earn monthly income between 10,000 to 20,000 rupees. Except for dairy farming, more than thirty-three per cent of each different sector can generate an income of more than 10,000 rupees month⁻¹.

The three different sectors, bio-waste management, collective farming, and nursery farming, can employ more than twenty employees on their farms. The next was handloom and craft, in which fifty per cent of the handloom and handicraft businesses had an employee range of 5 to 10. Table 5 reveals that the only business that generates revenue was a mushroom farm. In comparison, the sectors including dairy farming, handloom and craft, and integrated

farming had breakeven. The sector with the highest percentage of loss was miscellaneous farming. Out of the thirteen sectors considered in this study, five firms, including collective farming, miscellaneous farming, nursery farming, poultry farming, and technology, had incurred losses. The business without losses and breakeven was the feed processing sector. The maximum profits were gained in the feed processing sector, but the employment was very less in this sector. Feed processing was followed by a nursery farm with a profit of 66.7 per cent.

In the column called 'Pearson Chi-Squared statistic' of Table 6, it is observed that the Pearson Chi-Squared statistics for different demographic variables, including age, gender, religion, marital status, and educational qualification, were 7.080, 0.676, 6.059, 1.723 and 5.624 respectively with degrees of freedom 9, 3, 9, 3, and 9. In all five cases, the p-values were greater than 0.001. Therefore, we fail to reject the null hypothesis with 99.9% confidence and concluded that there was very strong evidence that the performance/status of horticulture-based startups is not associated with age, gender, religion, marital status, and educational qualification of the startups.

Table 1 presents the demographic characteristics of these agricultural startup respondents. The total number of samples considered in this study of Agro-Horticultural startups collected from the study area was 80. Table 1 illustrates the personal profiles of the 80 respondents. Table 1 revealed that thirty-three per cent of the respondents were in the 31-40 years of age group. It is shown that the majority of the respondents were males (approximately sixty-nine per cent). Around seventy-five of start-up entrepreneurs were at least a bachelor's degree, demonstrating their high level of education. It was also found that around seventy-seven per cent of the respondents were married. Also, sixty-one per cent of the startups were Hinduism, while the other communities were Christianity (five per cent), Islam (one per cent), and Sanamahism (thirty-two per cent). Table 2 shows the Agro-Horticultural Startups' monthly income in Manipur, in which the maximum number of startups had a monthly income between rupees 10,000 and 20,000, with a percentage of 48.8. In contrast, 40 per cent of the startups had income above 20,000 rupees. Meanwhile, a small group of startups (11.2%) had a monthly income of fewer than 10,000 rupees. Among those startups whose monthly income was below 10,000 rupees, 56 per cent of them were working full-time, while the remaining 44 per cent did not work full-time. Of the startups with monthly incomes ranging from 10,000 to 20,000 rupees, 26% were full-time employees, with the remaining individuals not working full-time. The majority of start-ups (84.4%) with monthly incomes over rupees 20,000 did not work full-time, while 15.6% of them work hard and earned above rupees 20,000. Table 3 displays the regional distribution of agricultural startups and the total amount of funding they received so far in the present study since the inception of startups. The information in the table reveals that, of the 80 business enterprises, 77 were ineligible for government assistance. Once more, just

one firm received funding out of the three that had submitted for government funding. Table 5 reveals the economic analysis of Agro-horticulture startups in Imphal East and Imphal West District. The eighty startups were involved in thirteen different agricultural and allied activities. The thirteen different nature activities were bio-waste management, collective farming, dairy farming, feed processing, fishery farming, handloom and craft, integrated farming, misc farming, mushroom farming, nursery farm, piggery farm, poultry farming, and technology development. The funding sources for agricultural start-ups are listed in Table 5, and it can be observed that the primary source of funding was contributions from friends and family. Five per cent of fledgling companies received business loans. On the flip side, out of eighty businesses, just one was receiving support from other government initiatives. Table 7 shows the average monthly income, standard deviation, and mean standard error of gender. The average monthly income of male startups was rupees 63200, while that of females was 67454.55. The values 69789.57 and 52677.15 were the standard deviations of males and females, respectively. Data from Table 8 revealed that the t-test statistic values were -0.302 (under the assumption of equal variances) and -0.272 (under the assumption of unequal variances), with degrees of freedom 78 and 36.93, respectively. The mean difference was -4254.55 in both the cases. As the p-values exceed 0.001, we cannot accept the alternate hypothesis that the average monthly income of male and female start-ups was different. So, it is concluded that there was strong evidence that the monthly income generated by female startups did not differ from that of female startups for those agro-horticulture-based startups. The gender average, standard deviation, and mean standard error are displayed in Table 9. Male business owners were approximately 43, whereas female entrepreneurs average about 42. Additionally, the standard deviations for men and women entrepreneurs were 10.48 and 10.35, respectively. Table 10 presents the t-test statistic values -0.45 (under the assumption of equal variances) and

-0.45 (under the assumption of unequal variances) with degrees of freedom 78 and 45.99, respectively. The mean difference in both situations was -1.134. The p-values were more than 0.001, indicating a failure to reject the null hypothesis with 99.9% confidence. Based on this, we conclude that there was strong evidence that the mean age of female startups was the same as that of male startups, primarily for those based in agro-horticulture. Table 12 confirms that, with degrees of freedom of 78 and 52.7, respectively, the t-test statistic values were -0.11 (assuming equal variances) and -0.12 (assuming unequal variances). In both circumstances, the mean difference was -0.113. With 99.9% confidence, the null hypothesis was rejected since the p-value was greater than 0.001, which suggests that there exists solid evidence that the number of employees employed by agro-horticulture-based startups in Imphal-East and Imphal-West districts was nearly equal for both male and female startups. Table 13 illustrates married and single individuals' mean, standard error, standard deviation, and average monthly income. For married business enterprises, the average monthly income was 63790.32, but for single startups, it was 74166.67. Furthermore, the standard deviations for married and single people were 56078.73 and 65848.53, respectively. Table 11 displays the gender mean standard error, standard deviation, and average number of employees. Male enterprises typically employed 5.16 people, compared to 5.27 for female startups. The standard deviations for men and women were 3.73 and 4.27, respectively. According to Table 12, the t-test statistic values with degrees of freedom of 78 and 24.609, respectively, were -0.664 (assuming equal variances) and -0.608 (assuming unequal variances). The two cases had a mean difference of -10376.3. There was extremely strong evidence that there was no difference in the monthly income collected by single and married startups in Imphal-East and Imphal-West districts, as indicated by the p-values being more than 0.001, which implies that we failed and rejected the null hypothesis with 99.9% confidence.

Table 1. Demographic characteristics of the respondents

Variables	Categories	Number of respondents	Percentage of respondents
Age group	24-30	12	15.0%
	31-40	26	32.5%
	41-50	22	27.5%
	>50	20	25.0%
Gender	Female	25	31.2%
	Male	55	68.8%
Religion	Christianity	4	5.0%
	Hinduism	49	61.3%
	Islam	1	1.2%
	Sanamahism	26	32.5%
Marital Status	Married	62	77.5%
	Single	18	22.5%
Educational Qualification	Below HSLC	5	6.2%
	HSSL	15	18.8%
	Graduation	40	50.0%
	PG/Master	20	25.0%

Table 2. Agro-horticultural startups' monthly income in Manipur

Monthly Income	Number of Startup	Percentage	Working full-time on this Startup	
			yes	no
Below 10,000	9	11.2%	5 (55.6 %)	4 (44.4 %)
10,000 -20,000	39	48.8%	10 (25.6 %)	29 (74.4 %)
Above 20000	32	40.0%	5 (15.6 %)	27 (84.4 %)

Table 3. District-wise split and funds received by Agri-Startups in Manipur

		Government funding			Total
		Not applicable	Applied but not Received	Applied and Received	
District	Imphal East	42 (95.5%)	1 (2.3%)	1 (2.3)	44
	Imphal West	35 (97.2%)	1 (2.8%)	0	36
	Total	77 (96.3%)	2 (2.5%)	1 (1.3%)	80

Table 4. Economic analysis of agro-horticulture startups in Imphal East and Imphal West District

Nature of activities	NS	Monthly Income			No. of employees				Status of business			
		G1	G2	G3	EG1	EG2	EG3	EG4	Pr	Los	BE	GR
Biowaste management	6	2	2	2	4	0	1	1	3	0	2	1
Collective farming	24	1	13	10	17	4	2	1	5	4	13	2
Dairy farming	1	1	0	0	1	0	0	0	0	0	1	0
Feed processing	2	0	1	1	2	0	0	0	2	0	0	0
Fishery farming	6	1	3	2	3	3	0	0	0	1	5	0
Handloom and craft	4	0	2	2	1	1	2	0	2	0	2	0
Integrated farming	2	0	1	1	2	0	0	0	1	0	1	0
Misc farming	14	1	7	6	9	5	0	0	2	6	3	3
Mushroom farming	3	0	1	2	2	1	0	0	0	0	2	1
Nursery farm	3	1	1	1	2	0	0	1	2	1	0	0
Piggery Farm	4	0	2	2	3	0	1	0	0	0	3	1
Poultry Farming	6	0	3	3	5	1	0	0	1	2	3	0
Technology Development	5	2	3	0	5	0	0	0	1	2	2	0

NS-Number of Startups, G1- Monthly Income Below 10,000, G2- Monthly Income between 10,000 -20,000, G3- Monthly Income Above 20000, EG1- No. of Employees Under 5, EG2- No. of Employees between 5-10, EG3- No. of Employees between 10-20, EG4 - No. of Employees Above 20, Pr- Profit in business, Los-Loss in business, BE-Breakeven in business, STR-Started generating Revenue in business

Table 5. Sources of funds of agro-horticultural startups

Source of seed capital	Number of startups	Per cent
Business Loan	4	5.0
Friends/ Family	75	93.8
Government grants	1	1.3
Total	80	100.0

Table 6. Chi-squared test for association between demographic variables and performance/status of horticulture-based startups

Variables		Profits	Losses	Break-even	Started Generating revenue	Total	Pearson Chi-Squared statistic	df	p-value
Age group	24-30	0	3	8	1	12	7.080 ^a	9	.629
	31-40	8	6	9	3	26			
	41-50	5	4	10	3	22			
	>50	6	3	10	1	20			
Gender	Female	5	6	12	2	25	.676 ^b	3	.879
	Male	14	10	25	6	55			
Religion	Christianity	0	2	2	0	4	6.059 ^c	9	.734
	Hinduism	11	11	22	5	49			
	Islam	0	0	1	0	1			
	Sanamahism	8	3	12	3	26			
Marital Status	Married	16	13	28	5	62	1.723 ^d	3	.632
	Single	3	3	9	3	18			
Educational Qualification	Below HSLC	0	1	4	0	5	5.624 ^e	9	.777
	HSSL	4	4	6	1	15			
	Graduation	9	6	20	5	40			
	PG/Master	6	5	7	2	20			

^a9 cells (56.3%) have expected count less than 5. The minimum expected count is 1.20.

^b1 cells (12.5%) have expected count less than 5. The minimum expected count is 2.50.

^c10 cells (62.5%) have expected count less than 5. The minimum expected count is .10.

^d3 cells (37.5%) have expected count less than 5. The minimum expected count is 1.80.

^e11 cells (68.8%) have expected count less than 5. The minimum expected count is .50.

Table 7. Average monthly income, standard deviation, and mean standard error of gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Monthly Income	Female	25	63200	69789.57	13957.91
	Male	55	67454.55	52677.15	7102.985

Table 8. Differences in monthly income between male and female

		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	p-value			Lower	Upper
Monthly Income	Equal variances assumed	1.601	0.209	-0.302	78	0.764	-4254.55	14105.5	-32336.4	23827.34
	Equal variances not assumed			-0.272	36.93	0.787	-4254.55	15661.28	-35989.1	27479.99

Table 9. Average age, standard deviation, and mean standard error of gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Age	Female	25	41.52	10.4806	2.0961
	Male	55	42.655	10.3552	1.3963

Table 10. Differences in mean age between male and female

		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	p-value			Lower	Upper
Age	Equal assumed	0.08	0.779	-0.45	78	0.652	-1.134	2.50	-6.125	3.856
	Equal variances not assumed			-0.45	45.999	0.654	-1.134	2.51	-6.204	3.935

Table 11. Average number of employees, standard deviation, and mean standard error of gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
No of Employees	Female	25	5.16	3.727	0.745
	Male	55	5.27	4.266	0.575

Table 12. Differences in the No. of Employees employed by male and female startups

		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	p-value			Lower	Upper
No. of Employees	Equal assumed	0.013	0.911	-0.11	78	0.910	-0.113	0.991	-2.085	1.860
	Equal variances not assumed			-0.12	52.7	0.905	-0.113	0.942	-2.01	1.776

Table 13. Average monthly income, standard deviation, and mean standard error of single and married persons

	Marital Status	N	Mean	Std. Deviation	Std. Error Mean
Monthly Income	Married	62	63790.32	56078.73	7122.006
	Single	18	74166.67	65848.53	15520.65

Table 14. Differences in monthly income between male and female

		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	p-value			Lower	Upper
Monthly Income	Equal assumed	2.194	0.143	-0.664	78	0.509	-10376.3	15621.98	-41477.3	20724.63
	Equal variances not assumed			-0.608	24.609	0.549	-10376.3	17076.69	-45574.8	24822.13

Manipur is an agricultural state in India, the government should focus on supporting agricultural enterprises there. According to this survey, corporate leadership roles were often associated with those who have strong academic credentials. Roughly 75% of the study's startup entrepreneurs held various degrees, however, 25% of those with less education also benefitted from the program. Men made up the bulk of business owners in the agriculture industry. Men made up about 68% of newly established business owners. It is important to educate women about the agricultural industry. It has been discovered that startups strengthen the state economy by creating jobs and income. It was discovered that a few high-income producing industries include piggery farming, poultry farming, integrated farming, feed processing, handloom and handicrafts, and mushroom cultivation. However, some significant employment-generating industries included handloom and craft, community farming, nursery farming, and bio-waste treatment. It was shown that while feed processing in the agriculture sector produced the highest profits when compared to other sectors, their contribution to the creation of jobs is negligible. The primary sources of funding for the startups were friends and family. A total of 94% of the respondents said they received assistance from friends and relatives. According to one study agriculture and allied sectors by Agarkar *et al.* (2023), in order to improve the socioeconomic growth of milk-based entrepreneurs, these sectors required training, direction, and financing. Bhoyar *et al.* (2018) found in another study that agro-horticulture based farming systems and entrepreneurs were the main sources of the significant increase in villager income. They also discovered that agro-horticulture based farming practices were the most prevalent in the villages.

From all of these evidence, our finding also showed that financial assistance from the government is required for agribusiness owners in Manipur. According to this survey again, a very small number of farmers were receiving funding from the government's program. The startup India program's financial assistance has to be strengthened. Horticulture-based startups' position and performance are unrelated to their age, gender, marital status, religion, or level of education. The amount of money that female entrepreneurs make each month is the same as that of other

female entrepreneurs that focus on agro-horticulture. For the most part, agro-horticultural companies had a mean age that was identical to that of male startups. Employers in the Imphal-East and Imphal-West districts that focus on agro-horticulture employed almost the same number of men and women. Between Imphal-East and Imphal-West areas, there was no difference in the monthly income that single and married startups earned.

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